

IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

1. (currently amended): An information transmission system comprising:

two transmission lines;

a first transmission line;

a second transmission line; and

a plurality of transmission terminals that are connected to both the first transmission line and the second transmission lines so as to transmit information to each other,

wherein each of said transmission terminals comprises a relaying means,

wherein each of said transmission terminals receives information from a sender via one or both of the first transmission line and the second transmission line through said two transmission lines such that all receiving of the information is conducted over both of said two transmission lines,

wherein each of the transmission terminals determines whether a failure has occurred on either the first transmission line or the second transmission line by checking whether the information is being transferred on the first transmission line and is not being transferred on the second transmission line,

wherein a determination that the information is being transferred on the first transmission line and is not being transferred on the second transmission

line indicates a failure has occurred on the second transmission line,
wherein when no failure occurs on the first transmission line and no
failure occurs on the second transmission line, the relaying means of the
transmission terminals do not relay the information to the first transmission
line or the second transmission line, and each of the transmission terminals
receives the information from the sender via both the first transmission line
and the second transmission line, and

wherein when a failure occurs on the first transmission line, such that a
first transmission terminal determines that the information is being transferred
on the first transmission line and is not being transferred on the second
transmission line, the first transmission terminal receives the information from
the sender via the first transmission line, and the relaying means transfers the
received information to the second transmission line such that the information
is present on both the first transmission line and the second transmission line
at the first terminal, and

~~wherein each of said transmission terminals includes a relaying means~~
~~which, when receiving said information from only one of said transmission~~
~~lines, transmits the received information to the other transmission line such~~
~~that all transmissions are conducted over both of said two transmission lines.~~

2. (original): The information transmission system according to claim 1, wherein said information transmission system is equipped with a means which preferentially relays information to a relaying means of a transmission terminal close to said sender.

3.-4. (canceled).

5. (currently amended): The information transmission system according to claim 1,

wherein each of said transmission terminals is equipped with means to send information from said terminal to the other transmission terminal, and

wherein each of said transmission terminals is equipped with means to send information from said terminal to the other transmission terminal over one of said two transmission lines first transmission line and said second transmission line if determined to be necessary.

6. (original): The information transmission system according to claim 5, wherein said information transmission system is equipped with a means which preferentially relays information to a relaying means of a transmission terminal close to said sender.

7. (currently amended): An information transmission system for railway vehicles comprising:

a first transmission line and a second transmission line transmission lines which connect a plurality of vehicles constituting a railway train; and a plurality of transmission terminals which are connected to said transmission lines first transmission line and said second transmission line to transfer information among said vehicles,

wherein each of said transmission terminals comprises a relaying means.

wherein each of said transmission terminals in respective vehicles receives information from a sender in the other vehicle one of the respective vehicles separately via one or both of the first transmission line and the second transmission line, through two of said transmission lines such that all receiving of the information is conducted over both of said two transmission lines, and

wherein each of the transmission terminals determines whether a failure has occurred on either the first transmission line or the second transmission line by checking whether the information is being transferred on the first transmission line and is not being transferred on the second transmission line,

wherein a determination that the information is being transferred on the first transmission line and is not being transferred on the second transmission line indicates a failure has occurred on the second transmission line,

wherein when no failure occurs on the first transmission line and no failure occurs on the second transmission line, the relaying means of the transmission terminals do not relay the information to the first transmission line or the second transmission line, and each of the transmission terminals receives the information from the sender via both the first transmission line and the second transmission line, and

wherein when a failure occurs on the first transmission line, such that a first transmission terminal determines that the information is being transferred on the first transmission line and is not being transferred on the second transmission line, the first transmission terminal receives the information from the sender via the first transmission line, and the relaying means transfers the

received information to the second transmission line such that the information is present on both the first transmission line and the second transmission line at the first terminal.

~~wherein each of said transmission terminals includes a relaying means which, when receiving said information from only one of said transmission lines, transmits the received information to the other vehicle through another transmission line such that all transmissions are conducted over two of said transmission lines.~~

8. (canceled).

9. (currently amended): The information transmission system according to claim 7, wherein each of said railway vehicles has two of said transmission terminals, each of which has a means to respectively send information over one of said transmission lines first transmission line and said second transmission line when said transmission terminal sends information from the vehicle having the transmission terminal to the other vehicle, if necessary.

10. (currently amended): An information transmission method of an information transmission system, wherein said information transmission system comprises two transmission lines a first transmission line, a second transmission line, and a plurality of transmission terminals which are connected to both of said first transmission lines line and said second transmission line to transmit information to each other, wherein each of the

transmission terminals comprises a relaying means, and wherein said method
comprises the steps of:

causing said transmission terminals to receive information from a sender
separately via one or both of the first transmission line and the second
transmission line; and through said two transmission lines such that all
receiving of the information is conducted over both of said two transmission
lines;

~~detecting that said transmission terminal is receiving information on only~~
~~one of said two transmission lines; and~~

~~sending the received information to the other of said two transmission~~
~~lines such that all transmissions are conducted over said two transmission~~
~~lines~~

determining, by each of the transmission terminals, whether a failure
has occurred on either the first transmission line or the second transmission
line by checking whether the information is being transferred on the first
transmission line and is not being transferred on the second transmission line,

wherein a determination that the information is being transferred on the
first transmission line and is not being transferred on the second transmission
line indicates a failure has occurred on the second transmission line,

wherein when no failure occurs on the first transmission line and no
failure occurs on the second transmission line, the relaying means of the
transmission terminals do not relay the information to the first transmission
line or the second transmission line, and each of the transmission terminals
receives the information from the sender via both the first transmission line
and the second transmission line, and

wherein when a failure occurs on the first transmission line, such that a first transmission terminal determines that the information is being transferred on the first transmission line and is not being transferred on the second transmission line, the first transmission terminal receives the information from the sender via the first transmission line, and the relaying means transfers the received information to the second transmission line such that the information is present on both the first transmission line and the second transmission line at the first terminal.

11. (new): A transmission terminal that receives information from one or both of a first transmission line and a second transmission line, the transmission terminal comprising:

a device controller comprising a device control block; and

a communication controller comprising a storage area, wherein the storage area comprises a status table,

wherein the status table comprises:

a received counter; and

a repetition required flag;

wherein when the transmission terminal receives information from the first transmission line, the received counter is incremented,

wherein when no information is received by the transmission terminal from the first transmission line, the received counter is not incremented, and the transmission terminal determines whether the information is being transmitted from the second transmission line,

wherein when the information is being transmitted from the second transmission line, the transmission terminal checks the repetition required flag to determine whether data repetition is required,

wherein when data repetition is required, the transmission terminal relays the information to the first transmission line and sends the information to the device control block, and

wherein when data repetition is not required, the transmission terminal discards the information.